

REVUE BELGE
DE
NUMISMATIQUE
ET DE SIGILLOGRAPHIE

CLXI – 2015

BELGISCH TIJDSCHRIFT
VOOR
NUMISMATIEK
EN ZEGELKUNDE

BRUXELLES – BRUSSEL

BUYING AND SELLING IN LATE ROMAN PISIDIA: A HYPOTHETICAL FRAMEWORK OF COIN USE IN SAGALASSOS AND ITS COUNTRYSIDE ^[1]

EXCAVATIONS AT THE ARCHAEOLOGICAL SITE of Sagalassos, located in the ancient region of Pisidia in present southwest Turkey (fig. 1), not only revealed spectacular architectural remains, but also yielded enormous quantities of smaller archaeological finds. Different artefact categories are studied in order to get insight into a broad range of societal issues, such as aspects of socio-economic, cultural and daily life through time. The coin finds form an important part of this material culture, with more than 4,000 coins being found and identified since 1990. The bulk of these coins, consisting of at least 56% of the total, can be dated to the 4th and 5th centuries AD. Small, low-value bronze coins seem to have been omnipresent during late Roman times. But what was the exact function of these coins in both the city and countryside of Sagalassos?

The aim of this paper is to evaluate hypotheses on coin use and market mechanisms operational in both the town and its countryside, relying on coin finds as well as on broader, archaeological and historical evidence. The focus will be on the degree of coin use on a daily basis, represented by the low-value bronze coins. The meaning and function of high-value coins fall outside the scope of this paper. To start, the most important developments in late Roman Sagalassos and its countryside will be outlined briefly. Secondly, the coin finds of Sagalassos will be analyzed in general, with an outline of the most important trends and contexts, and a discussion of the

* Researcher at the Royal Library of Belgium, Keizerslaan 4, 1000 Brussels, Belgium.

** Director of the Sagalassos Archaeological Research Project, KU Leuven, Blijde Inkomststraat 21/3314, 3000 Leuven, Belgium.

[1] This research was carried out within the framework of the project '*Comparing regionality and sustainability in Pisidia, Boeotia, Picenum and northwestern Gaul between Iron and Middle Ages (1000 BC-1000 AD)*', which is part of the Inter-university Attraction Poles Phase VII (2012-2017), funded by BELSPO. The research was also supported by the Research Fund of the University of Leuven and of the Research Foundation Flanders (FWO). Until 2013, the excavations and research programme at Sagalassos were directed by Marc Waelkens.

We would kindly like to thank Johan van Heesch and Chris Howgego for their constructive remarks on earlier drafts of this paper.

problems related to the interpretation of the coin finds within their archaeological context. Thirdly, we will look into broader historical and archaeological evidence of exchange and coin use in the late Roman East. Finally, the material will be collected to reconstruct a hypothetical framework of coin use at Sagalassos and its territory during the late Roman period, within the context of a changing relationship between town and countryside.

1. SAGALASSOS AND ITS TERRITORY DURING THE 4th AND 5th CENTURY AD

Prosperous times did not end in Sagalassos and its countryside during the late Roman period of the 4th and 5th centuries AD. Regarding the city itself, the urban appearance and architectural program underwent some important developments (Fig. 2). Sagalassos and its citizens followed an empire-wide trend in constructing a new city wall ^[2], which can partly be regarded as a tool to express their civic pride, surrounding an area of approximately 13 ha. Surface material and excavations however show that the inhabited area may have been almost double that size and was still densely occupied, with population numbers between 1,500 and 5,000 people ^[3]. Several other building activities reveal new developments. The rise of Christianity is visible in the conversion of existing monuments into churches, as was the case with the Temple of Apollo Klarios and the *Bouleuterion*, dating from the 5th and 6th century. Several other churches were constructed in the city and its periphery, resulting in a total of eight built by the 6th century AD ^[4]. The transformation of the *Bouleuterion* – of which several building blocks were re-used as *spolia* in the new city wall – into a church clearly demonstrates how local civic government accommodated and incorporated the Church and its bishops and clergy, supported by the principal landowners and councilors. The decrease in public inscriptions honouring the local elite is a contemporaneous development. ^[5] The continued investment in private luxury and pomp by this local oligarchy is for instance manifested in the construction of the palatial mansion outside the city walls ^[6].

^[2] The construction of the city-wall was possibly also a response to the external Gothic and Isaurian threats and the accompanying feeling of insecurity (Waelkens & Jacobs 2014, p. 94), but it remains very hard in archaeology to connect such building operations with specific historical events. As such, the initiative at fortifying places such as Sagalassos follows empire-wide official policies of developing strategic defensive policies in depth (see Poblome in press (b)).

^[3] Poblome *et al.* in press (a); Waelkens *et al.* 2006, p. 218; Waelkens & Jacobs 2014, p. 94-96. The reconstruction of the population total is based on observations on the size of the residential area, and spans the entire Roman imperial period (Willet & Poblome in press).

^[4] Jacobs *et al.* in press; Poblome *et al.* in press (a); Talloen forthcoming; Waelkens *et al.* 2006, pp. 220, 224; Waelkens & Jacobs 2014, pp. 105, 107-110.

^[5] Vanhaverbeke *et al.* 2007, p. 619; Waelkens *et al.* 2006, pp. 221-222, 226.

^[6] Waelkens *et al.* 2006, pp. 221, 226; Waelkens & Jacobs 2014, p. 121-123.



Fig. 1 – Map of Turkey with location of Sagalassos

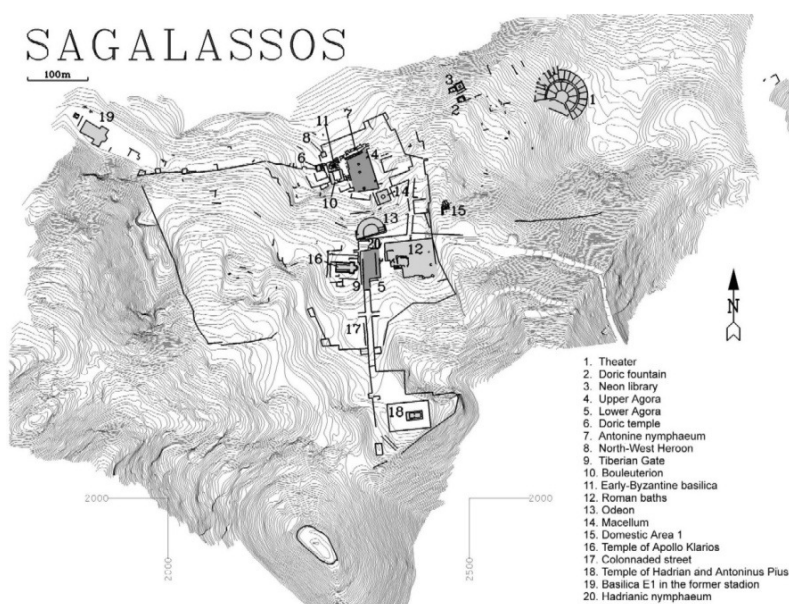


Fig. 2 – Map of Sagalassos

Besides these developments, many existing buildings at Sagalassos were modified and repaired in a monumental way, which testifies to an ongoing interest of the community to maintain their existing flagships. The Neon library received a new façade and mosaic floor during the 4th century. During the third quarter of that century however, the building and its mosaics

were apparently deliberately demolished ^[7]. The Roman Baths were lavishly redecorated and internally reorganized, including a new marble wall veneer decoration scheme and the conversion of some of its largest rooms around 400 AD ^[8]. Both the Upper and Lower Agoras were still serving as central places for various forms of political, social and commercial activities, with new statuary programs and the construction and renovation of rows of shops ^[9]. Finally, the town's monumental streets saw substantial repair, including the construction of new units within the porticoes ^[10]. The mainly commercial nature of those structures testifies to the town's vibrant economic activity. Urban craft activities were equally continued during late Roman times. After a drop in the production in the first half of the 4th century, the local pottery industry saw the introduction of a new line of Sagalassos red slip ware, conforming to the *koinè* of late Roman D tablewares ^[11] and the production of a new range of mould-made wares ^[12]. Other attested craft activities, including the processing of wool, metal, bone tools and glass, point to a more specialized urban productive landscape ^[13].

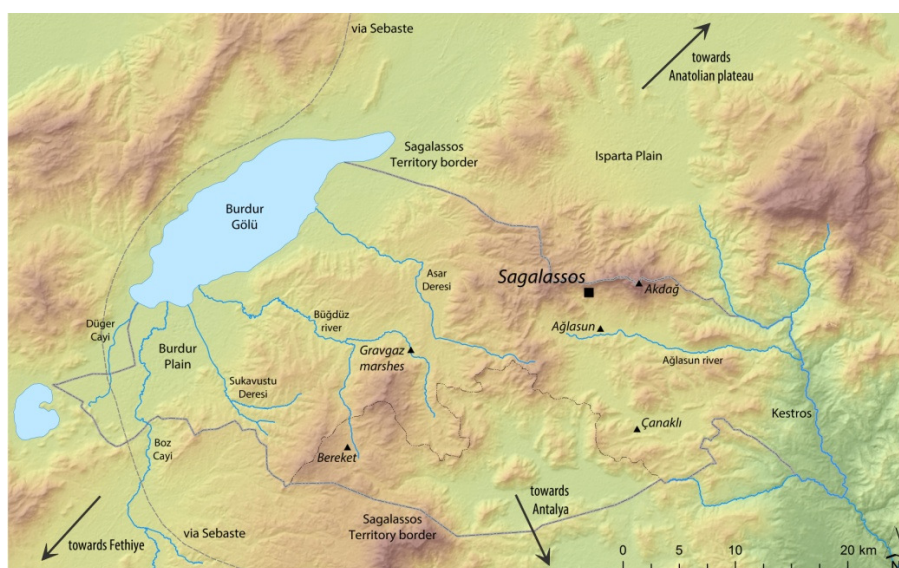


Fig. 3 – Map of the territory of Sagalassos

[7] Waelkens *et al.* 2000, p. 424-437; Waelkens *et al.* 2006, p. 220.

[8] Waelkens *et al.* 2006, p. 220; Waelkens & Jacobs 2014, p. 113-121.

[9] Lavan 2012A, p. 292-295.

[10] Lavan 2008.

[11] Poblome & Firat 2011.

[12] Murphy & Poblome 2012.

[13] Poblome *et al.* in press (a); for worked bone, see De Cupere 2001; for glass production, see Lauwers 2008.

Developments were not confined to the city center. The territory of Sagalassos, consisting of an alternation of plains, mountains and hills, covered an area of c. 1,200 km², stretching from Lake Burdur in the West to the river Aksu in the East, and from the Akdağ in the North to the hills south of the plains of Çeltikçi and Bağısaray in the South (Fig. 3) ^[14]. Regarding the climate, the region witnessed a similar cold and subhumid Mediterranean climate as nowadays, featuring wet winters and dry summers, although the temperatures in winter may have been less severe. The late Roman period conforms to the later stages, if not the end of the so-called Beyşehir Occupation Phase, which roughly stretches from 3000-1300 BC till 400-900 AD in southwest Turkey, and is characterized by intense human impact on the environment ^[15]. The general settlement pattern of Sagalassos' territory shows some important developments during late Roman times. Based on the extensive and intensive archaeological surveys carried out in the region, the number of sites, consisting of *e.g.* villages, estate centers or farmsteads, rural sanctuaries and production sites, seems to have reached its highest level ever. The nature and distribution of these sites seem to suggest a possible rise in population numbers during this period. Villages and farms were regularly dispersed over the territory and functioned as central points for the intensive agricultural exploitation of the landscape. This view corresponds to the passage in Justinianus' *Novellae* – dating to the 6th century AD – describing the Pisidian countryside as dotted with large and populous villages ^[16]. According to Hannelore Vanhaverbeke, there is moreover an increasing tendency towards nucleated settlements during late Roman and early Byzantine times, evidenced by an increasing number of villages and a decreasing number of farms ^[17]. However, a recent re-evaluation of the data and the intensive archaeological survey results shows that the number of villages and farms remained rather stable throughout Roman and early Byzantine times, which contradicts the nucleation hypothesis ^[18]. Regarding the productive landscape, material, macro-botanical, palynological and faunal remains attest to an intense and varied exploitation of the countryside in late Roman times. Moreover, there are clear signs of intensification and specialization of the agricultural landscape. The Ağlasun valley, immediately south of Sagalassos, seems to have concentrated mainly on vine and walnut cultivation, whereas olive cultivation remained important in the

^[14] Vanhaverbeke *et al.* 2007, p. 611.

^[15] Bakker *et al.* 2011, pp. 250, 253-254; Bakker *et al.* submitted; Poblome in press (a), p. 105.

^[16] Justinianus, *Novellae* xxiv.1.

^[17] Poblome in press (a), p. 122-123; Poblome 2015, p. 101-102; Vanhaverbeke & Waelkens 2003, p. 241-283; Vanhaverbeke *et al.* 2004, p. 254-262; Vanhaverbeke *et al.* 2007, p. 623-625; Vanhaverbeke *et al.* 2011, p. 75-76.

^[18] Poblome 2015, p. 104.

western and central parts of the territory, and the more remote basins of Gravgaz (15 km southwest of Sagalassos) and Bereket (37 km southwest) may have witnessed a shift to subsistence strategies^[19].

2. THE BOTTOM-UP APPROACH: LATE-ROMAN COIN FINDS FROM SAGALASSOS AND ITS TERRITORY

When attempting to reconstruct the nature and degree of coin use in late Roman Sagalassos and its countryside, a first possibility is a bottom-up approach, starting from the coin finds. Hitherto, 4,117 coins from the site of Sagalassos were identified, excavated between 1990 and 2013^[20]. The bulk of those coins, *viz.* 2,298 pieces or 55.8%, can be attributed to the 4th and 5th centuries. Moreover, the majority of the 1,064 unidentified coins can probably also be dated to this period, based on their size. Excluding one golden *tremis* dating to the reign of Theodosius I, all coins are low-value billon or bronze denominations, issued by the Roman state. This quantity of late Roman bronzes corresponds to the general picture of coin finds in the eastern empire, as recently illustrated by Peter Guest^[21]. By additionally comparing the chronological distribution of the late Roman material from Sagalassos with available data from some other sites in Asia Minor, *viz.* Amorium^[22], Hierapolis^[23], Perge^[24] and Side^[25], trends reveal a gradual rise during the 4th century AD, a distinct peak during the period 388–408 AD, and a fallback during the 5th century AD (Fig. 4)^[26]. However, the number of coins remains comparatively high at Sagalassos during the first half of the 5th century AD. A detailed discussion of these general trends falls outside the scope of this paper. According to Guest, the similarities between the different sites are “a reflection of the fluctuating output of late Roman [and early Byzantine] bronze coinage and how these were distributed around the empire”^[27] rather than that they “mirrored changes in a settlement’s political and economic fortunes”^[28]. Bearing in mind that late 4th century coins were most prom-

[19] Kaptijn *et al.* 2013; Poblome in press (a), p. 105–129; Vanhaverbeke *et al.* 2011.

[20] The coins found between 1990 and 2004 were identified and partly published by prof. em. Simone Scheers (see Scheers 1993A; 1993B; 1995; 1997; 2000 & in press). From the campaign of 2005 on, the coins were identified by Fran Stroobants and prof. Johan van Heesch.

[21] Guest 2012, p. 111–116.

[22] Katsari *et al.* 2012.

[23] Travaglini & Giulia 2010.

[24] Erol 2005; Köker 2007; Şen 2004; Tekin 1987.

[25] Atlan 1976.

[26] See also the graph in Guest 2012, p. 111, which shows a similar trend for nine sites in the eastern Mediterranean empire.

[27] *Ibid.*, p. 117.

[28] *Ibid.*, p. 118.

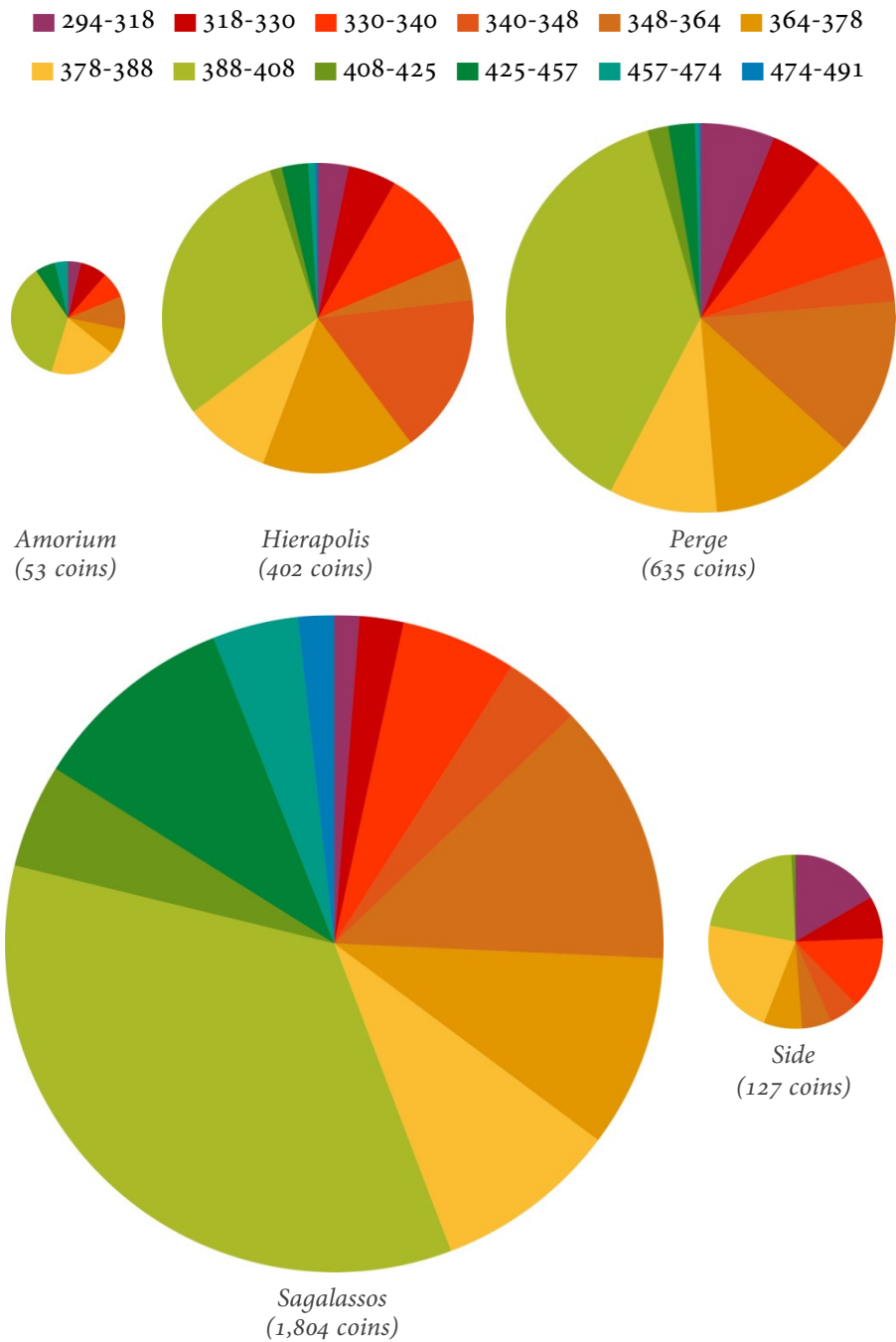


Fig. 4 – Chronological distribution of late Roman coins (294-491 AD) found at Amorium, Hierapolis, Perge, Sagalassos and Side, showing the proportions for each production period

bably still in circulation during the 5th century AD^[29], we can easily conclude that bronze coinage circulated abundantly in late Roman Sagalassos.

But how and in what circumstances were these coins used by the citizens of Sagalassos? To what extent was daily life monetized? A first clue is provided by the spatial distribution of the late Roman coin finds. The coins were found dispersed throughout the urban center, with some sites revealing a fairly high percentage of finds. Calculated on the 2,298 late Roman coins found at Sagalassos, 515 pieces or 22.4% originate from the *Macellum* or food market, which functioned from the late 2nd into the 7th century AD. The *Macellum* consisted of a large courtyard with a central *tholos*, surrounded by porticoes and shops, where fresh quality food could be bought. For unknown reasons, almost all of the shops were rebuilt during the 5th century AD, and continued to operate into the second half of the 6th century AD^[30]. At first sight, the fact that so many coins were found at the *Macellum* can be directly linked to the commercial function of the site, and the daily use of low-value coins to buy fresh foods by the late Roman citizens of Sagalassos. Unfortunately, things are not that straightforward. A more thorough analysis of the find contexts shows that most of the pieces were found in collapse or filling layers, which cannot inform us directly on the primary use of the coins. During the 2013 campaign for instance, 195 late Roman coins were found in a waste deposit in Room 15, which was thrown in through a window after the shop lost its primary function^[31]. In 2009, 230 coins were found in a mid-6th century AD dump layer, which was thrown in to block the underlying sewer^[32].

Likewise, many of the coins excavated at the Lower Agora were found in the late Roman shops of the western and eastern portico, but mainly formed part of waste disposal and collapse layers. To cite just one example, almost 50 coins were discovered in Shop 6, in a layer which is described as a “*destruction layer mixed with occupation material*”^[33]. The Upper Agora provides a similar image. During the excavation campaigns of 1999 and 2000, more than 500 coins were retrieved from a complex of late Roman shops and the adjacent portico – which was at some point in the 5th century divided into units, most probably serving as workshops – at the west side of the agora, almost exclusively dating to the 4th and 5th centuries. Again, pri-

[29] *Ibid.*, who states that late 4th-century coins are very frequently found within the same archaeological context as issues of the 5th and even 6th century. The same is true for various late Roman/early Byzantine contexts at Sagalassos.

[30] Richard & Waelkens 2012.

[31] *Excavation report* 2013; Richard *et al.* 2013, p. 47-48.

[32] *Excavation report* 2009, p. 78; Richard *et al.* 2010, p. 267-268; Waelkens *et al.* 2010, p. 271.

[33] *Excavation report* 2000, p. 104-105.

mary contexts were almost completely absent, since most of the material was found in filling layers ^[34].

The predominant secondary nature of the contexts in which most of the late Roman coins are found does of course influence the interpretation of these finds. Archaeological layers of this nature should mostly be seen as a palimpsest of material, whereby most of the objects are not found in their original context ^[35]. Although it remains the question where the material constituting the several layers originated from, it would however be the most efficient to limit the distance to be covered with dump or fill materials as much as possible. Moreover, the composition of some layers in particular cases seems to point to a local provenance ^[36]. We can therefore assume that a large proportion of the abundant late Roman coins found in Sagalassos can in general be linked to commercial contexts such as shops and markets and that they fulfilled an important function in the daily market life.

Apart from those large groups of finds, other contexts are of interest too. During the 2012 campaign, a presumed late Roman house, which was part of a larger unit also including a textile and coroplast workshop, was excavated east to the Neon Library ^[37]. The unit was organized by the end of the 4th century AD and was abandoned about a century later. The abandonment process may have been organized, including the destruction by fire of the house. The attested finds were left by the inhabitants who possibly may have had the opportunity to curate some of their possessions during the general abandonment of the site. The back room was used for storage purposes, and contained several storage vessels, foodstuffs, tableware and a range of tools. Besides, a concentration of 20 coins was found, probably belonging to a money purse. Ten of these coins could be identified and dated to the second half of the 4th century. This context clearly shows how money was

^[34] *Excavation report* 1999, p. 9-23; *Excavation report* 2000, p. 1-16; Waelkens 2000, p. 161-162.

^[35] Kevin Butcher elaborated widely on this subject in his work on the coin finds of Ancient Beirut (Butcher 2001-2002, p. 21-41). On this site too, the majority of the coins come from secondary contexts like levelling or collapse layers, associated with building or demolition phases. Butcher emphasizes the necessity of detailed analyses of these contexts and their find assemblages when interpreting the coin finds. Interestingly, the author also points to the effect of the type of occupation surfaces on the nature of the coin loss: “*sites with occupation surfaces where material was easily trampled into the deposit might contain primary coin deposition (‘loss’ or ‘discard’), more so than sites like Beirut, where occupation surfaces were often mortar, mosaics, or paving slabs, and coins are most frequently found in levelling deposits, where they may have been residual or obsolete and entered the deposit along with other materials*” (Butcher 2001-2002, p. 27).

^[36] See for instance the provenance of the earlier mentioned dump layer blocking the tunnel under the rainwater gutter at the *macellum*, which was most likely a former floor substrate from the *macellum* itself (*Excavation report* 2009, p. 78).

^[37] Poblome *et al.* in press (b).

kept or saved by common citizens at Sagalassos, waiting to be spent. Moreover, the concentration possibly confirms the fact that late 4th century bronzes remained in circulation until the late 5th century AD^[38]. Finally, a 4th century coin hoard was discovered in 2007, during excavations in the entrance hall of the *Odeion*. The hoard was attributed to the third building phase of the space, dated after the 4th century AD. All 62 coins could be identified and dated between 327 and 348 AD^[39]. Even though we can only speculate about the motives for the burial of this hoard, it shows that coins were available and saved in large quantities by the citizens of Sagalassos.

The countryside however, reveals an image in sharp contrast to the town of Sagalassos. Until now, coin finds remain extremely rare in the countryside of Sagalassos, with only 18 late Roman coins discovered during the several survey campaigns. This is without any doubt related to the absence of excavations, and to the fact that most of the survey work was of an extensive nature, reducing the chance of finding tiny coins. However, an interesting coin find originating from another Pisidian site should be mentioned. In the territory of the ancient town of Pednelissos, located south-east of Sagalassos, a settlement was discovered at Arpalık Tepe/Yumuklar, consisting of housing units, a bathing complex and a Doric temple, built over a cave^[40]. The sanctuary was apparently in use from the 6th century BC until the 4th century AD, and yielded 714 coins, besides other votive offerings such as figurines, and pottery sherds. 4% of these coins can be dated to the late Roman period, but detailed contextual information is lacking^[41].

Although these coin finds may be useful as a starting point, they are in themselves not sufficient to make general statements on urban and rural coin use in late Roman Sagalassos and its countryside. However, present in large numbers, the finds from Sagalassos itself were most often found in secondary contexts, while the apparent absence of coins in the countryside is most probably due to the lack of excavations. The important coin finds at the rural sanctuary at Yumuklar represent moreover a very specific case. Coins could be donated to the sanctuary as votive offerings by passers-by, *e.g.* pilgrims, soldiers or merchants, and do not necessarily reflect coin use in the countryside. Due to these limitations, considerations on the coin use and levels of monetization can therefore only be made by combining the coin finds with other archaeological and historical evidence and by asking the right questions. Later on in this paper, we will return to some specific relevant late Roman coin finds at Sagalassos, and interpret these in their archaeological and historical context.

[38] *Excavation report* 2012; Poblome *et al.* in press (b); Uleners & Poblome 2014, p. 89.

[39] *Excavation report* 2007, p. 86.

[40] Vandeput & Köse 2009, p. 49.

[41] Lenger 2011.

3. THE TOP-DOWN APPROACH: OTHER ARCHAEOLOGICAL AND HISTORICAL EVIDENCE

First of all, it is necessary to consider the general view on daily coin use in Roman times. Although caution is required when using broader historical and archaeological evidence in trying to reconstruct the level of coin use at a specific location and during a specific period, it can be useful to broaden our view to other significant material, especially data originating from the Eastern Mediterranean in late Antiquity. There is a broad consensus among scholars about the widespread use of bronze coins in urban contexts^[42]. Taking into account the low value of these coins, the standard view is that they were used for daily purchases. The main concern of city-dwellers, not active in agricultural production, may have been regular expenditures on food, apart from the purchase of household objects and the payment of rents and certain services. Although dating from the early Roman imperial period, the situation in late Roman times may have been comparable to the one described by Dio Chrysostomos^[43]:

“the poor [...] have to pay house-rent and buy everything they get, not merely clothes, household belongings, and food, but even the wood to supply the daily need for fire, and even any odd sticks, leaves, or other most trifling thing they need at any time, and when they are compelled to pay money for everything but water, since everything is kept under lock and key, and nothing is exposed to the public except, of course, the many expensive things for sale.”^[44]

Opinions on coin use in the Roman countryside do however vary widely. Although Crawford^[45] and Burnett^[46] judge rather negatively about rural monetization, coin finds from the village of Karanis^[47] in Egypt for example show a different perspective. In his study of Roman Syria, Butcher equally concludes that: *“it is entirely reasonable to assume that the Syrian countryside was populated by coin-users, and that everybody in the eastern provinces regularly used coinage as a means of exchange”*.^[48] If the rural population used coinage to some extent, on what could they have spent their money? First of all, we have to consider to what extent farmers were self-sufficient in their food supply. If there was a certain degree of specialization, in which

[42] Some of the leading publications in this respect are Crawford 1970, p. 42; Hopkins 1995-1996, p. 61; Howgego 1992. For the late Roman period, see also Carrié 2012.

[43] Dio Chrysostomos, *Orationes* VII, 103-7.

[44] Hollander 2007, p. 112.

[45] Crawford 1970, p. 45.

[46] Burnett 1987, p. 96.

[47] Haatvedt & Peterson 1964.

[48] Butcher 2004, p. 149.

different zones of the rural landscape were used to grow different products, we could assume that the rural inhabitants could rely upon their own crops for certain food products, but that exchange would have been necessary to bring variation into their diet, especially in times of harvest failures^[49]. Moreover, farmers would have needed tools^[50] and services which they could not provide for themselves, possibly including items of clothing and furniture, agricultural implements, building materials or storage facilities^[51]. In this respect, it is interesting to see how the *Codex Theodosianus* proclaimed goods purchased for farm operations exempt from tax^[52]. Some richer rural dwellers could occasionally have spent their money on luxury objects like jewels^[53]. Although it seems reasonable to conclude that the use of coins for daily needs is less widespread in the countryside than in the city itself^[54], due to the possibilities of the inhabitants to provide for a large part of their own needs, coins will have had their function for the rural population too^[55].

To which structures could both urban and rural inhabitants turn in order to provide themselves with the goods they needed? Regarding the city, many permanent structures existed^[56]. First of all, Luke Lavan demonstrated that *agorai* in Asia Minor – and by extension in the entire Mediterranean – retained their important function as central squares in the city center, and still fulfilled their traditional social, political and commercial functions^[57]. Concerning the commercial function, stalls, market buildings and shops were omnipresent. Shops were rebuilt, repaired or even built anew at many sites during the 4th and 5th centuries, which points to a measured commercialization of the city and its squares. Regarding Asia Minor, new shops were built at Sagalassos, Antiochia pros Pisidiam, Aphrodisias, Arykanda, Iasos, Seleukeia/Lyrbe, Ephesos and Side, and re-

[49] De Ligt 1990, p. 43-46; Mitchell 1993, p. 181; Vanhaverbeke & Waelkens 2003, p. 261.

[50] However, manufacturing activities/professional crafts may have taken place at some rural villages, see De Ligt 1991, p. 34-42.

[51] De Ligt 1990, p. 47-49; Hopkins 1978, p. 75.

[52] *Codex Theodosianus*, 4.13.2-3.

[53] De Ligt 1990, p. 49; Hopkins 1978, p. 50-51.

[54] Howgego 1992, pp. 20, 22; Katsari 2008, p. 262.

[55] Although one has to be careful when using evidence from sites which lay far outside the region under consideration, the archives of Kellis, a village in the Egyptian Dakhla Oasis, which document the life of a family over several generations, can give an insight in the possible importance of coinage in the late Roman countryside. Several extracts highlight the many uses of bronze coinage throughout the 4th century AD, which were apparently even used for large expenses (Bagnall 1997; Carrié 2012, p. 22).

[56] For an overview of commercial space in late Antiquity, see Putzeys & Lavan 2007; On the visibility of artisans and traders in the archaeological record, see Zanini 2006.

[57] Lavan 2006.

building and repairs were visible at Ephesos, Sagalassos, Arykanda, Perge, Side and Ariassos^[58]. A well-known complex of (work)shops, occupied from the later 5th until the 7th century, was excavated at Sardis and provides a vivid image of the layout and function of these commercial structures^[59]. *Macella* or food markets and large market buildings equally remained in use in the Roman East. Continued use of *macella* in Asia Minor during the 4th and 5th centuries is attested in Constantinople, Sagalassos, Ephesos, Side and Perge, while market buildings were still operational at Melli and Pednelissos^[60]. Apart from these permanent structures, evidence shows that semi-permanent or temporary stalls were dotted around towns. Excavations at the forum of Iol Caesarea revealed cuts into the paving in front of the portico, originating from semi-permanent huts. Within those paving cracks, a large number of 4th-century bronze coins were found, apparently related to the commercial activities which took place at these stalls^[61]. At Aphrodisias, *topos* inscriptions were discovered allocating a certain place to a certain salesman, selling his products at a table or market stall^[62]. One of the inscriptions for instance, carved on a column at the southern agora, marks the place of a peddler named Zoticos^[63].

Some literary sources give an insight into the wide variety of products and services that were sold at these commercial structures. John Chrysostom for instance, who elaborately describes the daily life at the *agorai* of Antioch and Constantinople in his late Roman writings, mentions the sale of meat, bread, wine, vegetables and shoes, and reports on the activities of barbers, perfumers and metal workers^[64]. Important epigraphic evidence comes again from Aphrodisias. A graffito was found at the tetrastoon, a square east of the theatre, mentioning a list of sold goods and their prices^[65], including honey, wine oil and bread, and perhaps vegetables, pulses and storax^[66]. At the same site, a place inscription allocates a shop in the hall of the theatre baths to the barber Alexander^[67]. At the site of Perge, a place inscription

[58] Lavan 2006, p. 226; see also Lavan 2012B, p. 361-362.

[59] Crawford 1990; Harris 2004; Zanini 2006, p. 382.

[60] Lavan 2006, p. 225-226; see also Lavan 2012B, p. 342-345.

[61] Lavan 2012B, p. 336; Potter 1995, p. 36-39.

[62] Lavan 2006, p. 224 & 2012B, p. 339; Roueché 1989, p. 229-230.

[63] Roueché 1989, nr. 206.

[64] Lavan 2006, p. 228-229 & 2007, p. 166-167 & 2012B, p. 340; meat, bread and wine: John Chrysostomos, *Ad Theodorum Lapsus*, 19.7-10; vegetables and shoes: *Id.*, *Hom. In Ac.*, 9.5; barbers and perfumers: *Id.*, *Hom. In 1 Cor.*, 36.5; silver beaters and braziers: *Id.*, *Hom. In Ac.*, 6.3.

[65] The prices are expressed in *myriads*, which is in accordance to the low value of the late Roman bronze coins in circulation (Roueché 1989, p. 242-243).

[66] Lavan 2006, p. 229 & 2012B, pp. 339, 340-341; Pitarakis 2012, p. 407; Roueché 1989, nr. 213.

[67] Lavan 2006, p. 229 & 2012B, p. 339; Roueché 1989, nr. 191.

marking the location of a restaurant was carved on a monumental arch at the main street^[68]. According to Lavan, foodstuffs were mostly sold at market stalls, market buildings and *macella*, while shops were mostly occupied by restaurants, artisans or service providers. This apparent division was possibly due to regulation, or more probably to the fact that the value of food was too low or seasonal to support the occupation of a permanent structure^[69]. Moreover, stalls and tables were probably occupied by farmers from the city's territory, selling their surplus to the city dwellers, while shops were operated by permanent traders who lived in the city^[70].

The combination of this evidence from the late Roman East seems to point to vivid commercial activity on a daily basis in the city. The writings of Libanius, focusing on 4th century Antioch and its surroundings, confirm this view: goods of all kind and from all over the world were available throughout the whole city, even between the columns of the *stoas*^[71].



Fig. 5 – Extract from the Yakto mosaic. The man in the middle is probably a butcher, selling his meat on a chopping block
(© Dirk OSSEMAN, <http://www.pbase.com/dosseman/image/140539643>)

[68] Lavan 2012B, p. 339.

[69] Lavan 2012B in general, and especially p. 350-351 for this hypothesis. See also Putzeys & Lavan 2007 for an overview of shop functions.

[70] Lavan 2012B, p. 362.

[71] Libanius, *Orationes* XI, 251-258; for an English translation, see Norman 2000, p. 59-63. On this passages, see also Lavan 2012B, p. 340; Pitarakis 2012, p. 402; Zanini 2006, p. 376.

A similar image is attested in the Megalopsychia Hunt mosaic from the village of Yakto, dating to the third quarter of the 5th century. The border of this mosaic, depicting everyday scenes in the streets of Antioch, confirms this view of abundant commercial activity, by showing the colonnaded street filled with food sellers, selling their products at tables (Fig. 5) ^[72].

In rural areas, permanent or semi-permanent shops and markets were perhaps rare to non-existent, due to the lower daily demand. Goods of very different kinds could however also be bought at periodic markets which were widespread in the Roman Empire, extensively studied by Luuk De Ligt ^[73]. A distinction should be made between short-cycle and long-cycle markets, which could both take place in the cities or in the countryside. Short-cycle markets were held once, twice or several times a month, and mainly involved agricultural products and inexpensive manufactured goods ^[74]. They could be held in the city, where agricultural produce from rural areas could be sold to urban dwellers, and where town-produced or town-imported goods found their way to farmers ^[75]. Most likely, the market stalls and tables, which were probably omnipresent in the city center, were used on these occasions. According to De Ligt, such markets were also held in some rural villages, where inhabitants exchanged their surpluses among each other, and were as such “*self-sufficient as a group*” ^[76], with no need to visit the urban markets to provide for their own needs. Long-cycle markets or fairs were very often held in combination with large festivals, and attracted merchants and buyers from a wider area. Apart from the necessary food and drink that was sold to the visitors, more specialized and luxury goods will have been available at those fairs ^[77].

Without going into too much detail on the precise functioning of those different markets, we should consider what they meant for the daily coin use in the late Roman city and its countryside. Although originating from Eastern Mediterranean places rather far from Sagalassos, a couple of late Roman epigraphic and literary sources shed some light on the matter. An inscription lists a calendar of markets held in the territory of Magnesia ad Maeandrum ^[78], and makes mention of peddlers selling their products ^[79]. Regarding the ancient literature, some meaningful passages occur in Liba-

^[72] Kondoleon 2000, p. 115; Lavan 2012B, p. 340; Levi 1947, p. 330-331 & pl. 79-80; Pitarakis 2012, p. 402.

^[73] De Ligt & De Neeve 1988; De Ligt 1990, 1991 & 1993.

^[74] De Ligt & De Neeve 1988, p. 402.

^[75] De Ligt 1993, p. 6-7.

^[76] De Ligt 1990, p. 29.

^[77] De Ligt 1993, p. 14-15; De Ligt & De Neeve 1988, p. 401.

^[78] *Corpus Inscriptionum Latinarum* 8.270.

^[79] De Ligt 1991, p. 52-53.

nus' *Orationes*, dating to the 4th century. One extract ^[80], focusing on the countryside of Syrian Antioch, mentions the following:

"Large and well populated villages, populous no less than many cities, and with crafts such as are in towns, exchanging with each other their goods through festivals, each playing host in turn and being invited and stimulated and delighted and enriched by them through giving of its surplus or filling its needs, setting out some things for sale, buying others, in circumstances far happier than the merchants at sea. In the place of the latter's waves and swells they transact their business to laughter and handclapping, having little need of the city because of their exchange among themselves." ^[81]

Another passage from Libanius mentions peasants selling cheese, wheat, barley and fodder ^[82]. The fifth-century theologian Theodoret of Cyrhus mentions in his *Historia Religiosa* a fair held at Imma, a large village at 40 km east of Antioch. The fair attracted great numbers of both traders and crowds ^[83]. Finally, a passage from the *Codex Theodosianus* clarifies how peasants were exempt from tax for tradesman if they sold only the produce from their farms ^[84].

The above combination of archaeological, literary and epigraphic evidence reveals a commercial landscape with a considerable capacity of daily coin use, both in the city and in the countryside. Permanent shops and market buildings seem to have been widespread in the late Roman cities of Asia Minor and the Roman East, while stalls and tables were used by traders from both city and countryside to sell daily foodstuff and other common products. However, temporary markets were not restricted to the city, but also took place in the countryside, where farmers exchanged surplus products mostly among each other.

4. A HYPOTHETICAL FRAMEWORK OF COIN USE AT LATE ROMAN SAGALASSOS AND ITS COUNTRYSIDE

Now that we have a general view on the late Roman commercial landscape in the eastern Mediterranean, it is necessary to return to Sagalassos. By analyzing the relevant material from the excavation and survey campaigns in more detail, we aim to reconstruct a hypothetical framework of coin use in late Roman Sagalassos and its countryside.

[80] Libanius, *Orationes* 11.230.

[81] De Ligt 1990, p. 28.

[82] Libanius, *Orationes* 50.25; 28; 31.

[83] Theodoret of Cyrhus, *Historia Religiosi*, 7.2-3; De Ligt 1991, p. 49.

[84] *Codex Theodosianus* 13.1.3, 13.1.10 en 13.1.12.

The reconstruction of this framework should start by considering the apparent changes in the relationship between town and countryside in the Sagalassian territory. As mentioned earlier, various late Roman data point to processes of specialization and intensification of the productive landscape in the territory of Sagalassos. First of all, the Graygaz and Bereket basins, located at respectively 15 and 37 km southwest of Sagalassos, witnessed a shift in balance: pollen analyses^[85] indicated that while Roman Imperial activities seemed to comprise mainly the production of so-called cash-crops such as cereal and olives, the degree of pastoralism increased during late Roman times. This shift coincided with an increase in moister conditions, which is considered to make an environmental explanation for these changes less plausible, favouring a socio-economic focus. Moreover, the settlement pattern in the contemporary village of Bereket remained stable during this period. Apparently, the farmers in both basins made the positive decision to specialize in pastoralism, which implies less risk of failure, albeit generating less revenues^[86].

Archaeological survey results from the Bereket valley do moreover point to a ceramological shift during the same period^[87]. While Sagalassos red slip ware was the most common type of tableware found in the valley before late Roman times, the Bereket community now mainly used red slipped wares from yet unknown production centers. This can possibly be linked to a drop in the production of Sagalassos red slip ware during the 4th century AD. However, when the output of this tableware increased again shortly afterwards, it remained largely absent in the ceramological record of the valley. Apart from the tableware, large amounts of amphorae sherds were discovered at Bereket. Although these amphorae are morphologically very close to the ones produced at the Ağlasun valley – which were found in great numbers in the center of Sagalassos – the fabrics differ, suggesting a different place of production^[88].

The study of faunal remains excavated at Sagalassos can give some more clues in this matter. First of all, a proportional increase in cattle bones is witnessed during late Roman times^[89]. Moreover, the heavy metal analysis of these bones demonstrated that the attested levels of lead and copper dropped during this same period, suggesting that the cattle which were used and consumed at the city now originated from areas located further away from the pollution signature of Sagalassos. The same trend can be ob-

[85] For the pollen analysis, see Kaniewski *et al.* 2007 & 2008; Kaptijn *et al.* 2013, p. 88-90.

[86] Kaptijn *et al.* 2013, p. 90-92; Poblome in press (a), pp. 106-108, 125.

[87] For the analysis of the pottery found at the Bereket valley, see Kaptijn *et al.* 2013, p. 79-88.

[88] *Ibid.*, p. 90-92; Poblome in press (a), p. 123-124; for the reconstruction of the production output of Sagalassos red slip ware, see Poblome *et al.* 2013.

[89] De Cupere 2001, p. 134.

served for goats, and by association sheep ^[90]. Although no evidence for a direct link exists, the shift to pastoralism at Bereket and Gravgaz and the more distant provenance of the cattle, goat and sheep used and consumed at Sagalassos, should be kept in mind.

The Ağlasun valley, situated immediately south of Sagalassos, equally underwent some important developments during late Roman times. Based on a rise in the locations and amounts of collected sherds, there seems to have been a slight rise in the number of farms during the 5th and especially 6th century AD. Besides, during the second half of the 4th century, a line of local fabric 4 amphorae was initiated – and probably filled – by farmers in the valley ^[91]. Residue analysis of some of these amphorae showed that they were used for olive oil and walnut oil, whereas the typology of the amphorae is suggestive of wine ^[92]. Based on this evidence, it seems that the inhabitants of the Ağlasun valley reduced their activities in livestock farming, with cattle, sheep and goat consumed originating from now on from more remote and less polluted areas, and primarily focused on the cultivation of crops like grapes and walnut, whose end products were packed in locally produced amphorae ^[93].

By combining the available evidence, it becomes clear that things were different in the Sagalassian countryside during late Roman times ^[94]. The territory of Sagalassos continued to offer a well-occupied and diverse landscape during this period. Although caution is needed when assuming a rise in the number of settlements, it is certain that villages and farms were still dotted at regular intervals in the landscape. Moreover, signs of increasing specialization are recognizable in the archaeological, faunal and palynological record. While the Ağlasun valley, nearby Sagalassos, focused on crops like grapes and walnuts, the basins of Bereket and Gravgaz shifted their focus to pastoralism. Disregarding whether the cattle, goat and sheep consumed at Sagalassos actually came from those latter locations, it is clear that the town of Sagalassos now also relied upon more remote parts of its territory to obtain the required agricultural products. This lead Hannelore Vanhaverbeke to conclude that the town and its countryside became more integrated during late Roman times ^[95]. At Bereket moreover, the presence of tableware originating from production centers different from Sagalassos, possibly shows that connectivity not only increased with the town, but possibly also with other surrounding locations.

[90] Degryse *et al.* 2004; Poblome in press (a), p. 112–114; Vanhaverbeke *et al.* 2011, p. 78.

[91] Poblome *et al.* 2008.

[92] Romanus *et al.* 2009.

[93] Poblome in press (a), pp. 114–115, 121–122.

[94] See also Izdebski 2013 for an analysis of the economic prosperity in the Anatolian countryside during Late Antiquity.

[95] Vanhaverbeke *et al.* 2011, p. 80.

This attested increase in specialization and intra-regional connectivity will have also had its effect on patterns of exchange. First of all, inhabitants of the regional attraction pole of Sagalassos were more reliant on the import of food products produced in the countryside in order to provide for their needs. We can therefore be sure that farming produce found its way from the countryside to the city in a systematic way. These products reached the urban market as result of private initiative, with farmers selling their own – rather small and low-risk – produce^[96]. The presence of late Roman amphorae, produced in the Ağlasun valley, shows that the town relied on this part of the territory for the provisioning of wine, walnut oil and olive oil^[97], while meat was obtained from more remote areas of the territory. Moreover, exchange will have existed among the inhabitants in the countryside. The increased specialization of the productive landscape meant that farmers needed to rely on the surplus of villages of estates to a greater extent in order to provide for all necessary provisions. Finally, both urban and rural dwellers probably depended on the city center for the provisioning of certain goods and services, such as craft products or jurisdiction. In sum, exchanges on a regular basis will have been necessary in all directions, both between and within the town and its countryside. In this way, both the population of the city center as the more or less specialized farmers provided for their needs, and a sustainable equilibrium was created due to the strong integration of town and countryside.

Do we have evidence of possible structures where this kind of exchanges might have taken place at late Roman Sagalassos and its countryside? Considering the city center, it is clear that commercial facilities were omnipresent during late Roman times. At the Upper Agora, a new row of shops, fronted by a portico, was built along the west side of the square during the 5th century (Fig. 6). The location and layout of these rooms – located on a busy square, preceded by a portico which protected both visitors and goods from sun and rain, and with an open configuration allowing direct contact between visitors and traders and their goods – made them ideal for retail activity. Somewhat later, *i.e.* between the mid 5th and mid 6th century AD, the portico witnessed a phase of encroachment^[98], with rooms being built both north and south of a newly constructed staircase, leading from the *agora* to the courtyard of the Bouleuterion Basilica^[99].

[96] Poblome in press (a), p. 127-128.

[97] Poblome *et al.* 2008.

[98] The term ‘encroachment’ refers to the usurpation and subdivision of public space by smaller units, a common practice in the late antique eastern Mediterranean. Although it was long time seen as a sign of civic decline, it rather points to a vibrant economic context, with otherwise unoccupied space being subdivided and occupied by merchants and artisans exploiting their (works)shops, or by housing units (see *e.g.* Jacobs 2009 and Lavan 2012B, p. 333-336).

[99] Lavan 2012A, p. 293 & 2012B, p. 370; Putzeys 2007, pp. 291-294, 347.

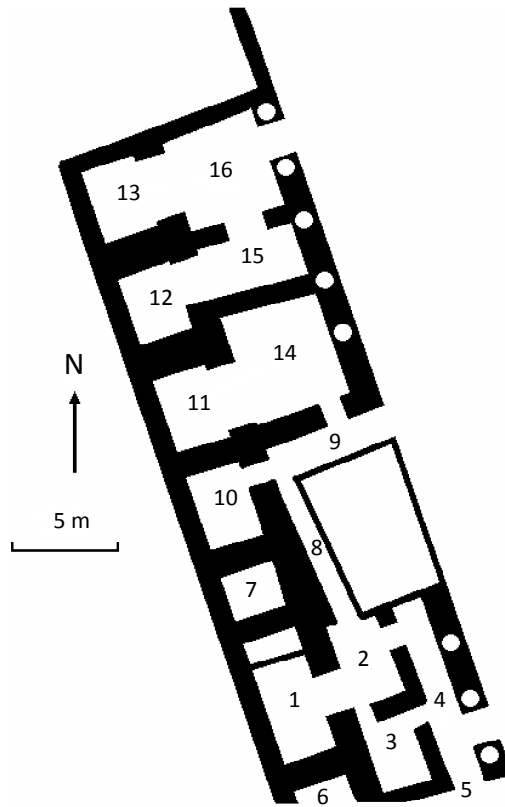


Fig. 6 – Map of the western portico at the upper agora (PUTZEYS 2007, fig. 116)

The archaeological material found within these shops was analyzed by Toon Putzeys in great detail ^[100], managing to establish the possible function of some of these rooms. In the northern part of the portico, a complex of four interconnected spaces (Rooms 12, 13, 15, 16) was identified as a blacksmith (work)shop, based on the presence of *e.g.* hearths and flakes of iron. The function of a second unit, consisting of two rooms (Rooms 11, 14), is less clear, but the architectural layout equally points to a function as (work)shop. The rather large amount of late Roman coins found in those units suggests that metal tools were not only produced, but also sold at the complex ^[101].

^[100] Toon Putzeys developed and used a method of contextual analysis, consisting of three steps: first, determining the architectural subdivision of the room, second, assessing the degree to which the recovered material is representative of the original content, and third, identifying certain functional categories in the archaeological record (Putzeys *et al.* 2008, p. 162-163).

^[101] Lavan 2012B, p. 295; Putzeys 2007, p. 347-348. Room 11: 29 coins — Room 12: 1 coin — Room 13: 1 coin — Room 14: 24 coins — Room 15: 5 coins — Room 16: 9 coins (Putzeys 2007, p. 313-314).

In the southern part of the portico, other kinds of activities seem to have been going on. While the floor deposits in Rooms 2 and 3 yielded a large amount of coins ^[102], a balance tray and weights were found in Room 1. Based on the similarities with one of the so-called “shops” in Sardis ^[103], Toon Putzeys identified this complex as belonging to a tax collector or a civil servant checking the value of the currency on a professional basis ^[104]. Although the evidence is too scarce to assume these functions with certainty, the presence of such services at the *agora* should be presumed. Commercial activities were however not restricted to permanent structures. Based on the discovery of a series of postholes, cutting through the pavement of the *agora*, Luke Lavan was able to record eight wooden market stalls, dating to the late Roman period (Fig. 7) ^[105]. Moreover, a number of *topos* inscriptions were registered at the Upper Agora, similar to the ones found at Aphrodisias, which seemingly allocated a certain space to a certain salesman. Three of these (T7, T8, T9) can probably be linked to the wooden stalls and named the tradesmen who were allowed to sell their goods. A fourth inscription (T6), mentioning ‘*the place of the bronzesmiths*’, is particularly interesting giving the presumed presence of a metal (work)shop in the northern part of the portico. Although it is not sure whether the inscription and the complex are directly related to each other, it confirms the fact that artefacts were produced and sold at the *agora* ^[106] and may refer to the function of one of the southern portico shops.

The Lower Agora witnessed similar developments during late Roman times. Somewhere between the mid 5th and mid 6th century, the portico on the western side was largely rebuilt including spaces/shops, oriented towards the square and preceded by a wooden portico (Fig. 8) ^[107].

Using the same method of contextual analysis as at the Upper Agora, Toon Putzeys was able to identify the function of some of these spaces. Based on the layout and finds – such as pottery for the storage, cooking and serving of food, concentrations of animal bone and cereal, the presence of hearths, cupboards, shelves and a constant water supply, and the large amount of coins – he concluded that both Room w6/7 and Room w3 could have been used for the preparation and selling of food.

[102] Room 2: 7 coins — Room 3: 48 coins (Putzeys 2007, p. 312–313).

[103] According to Harris, the presence of large quantities of coins, scales and weights in the rooms next to the main avenue south of the bath complex at Sardis, rather points to a function as business office, bank or space of a money-lender, than to merely commercial activities (Harris 2004, p. 101).

[104] Lavan 2012B, p. 295; Putzeys 2007, p. 323–324.

[105] Lavan 2012A, p. 328–331.

[106] Lavan 2012A, p. 333 & 2012B, p. 338; Putzeys 2007, p. 345–346.

[107] Lavan 2012A, p. 303–305; Putzeys *et al.* 2008, pp. 171–173, 178–179.

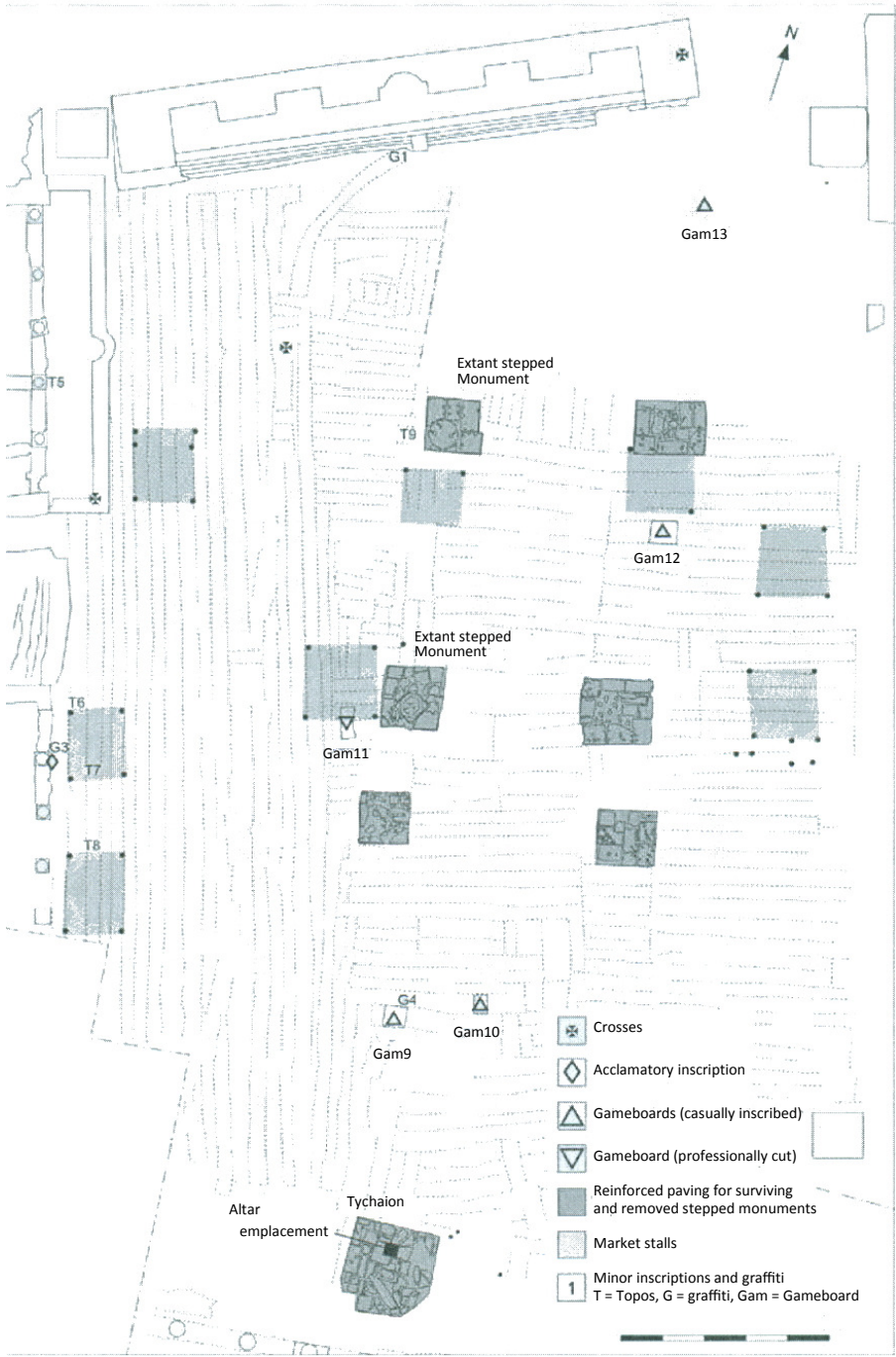


Fig. 7 – Map of the surface traces at the upper agora, with indication of the market stalls and topos inscriptions (LAVAN 2012A, fig. 8)

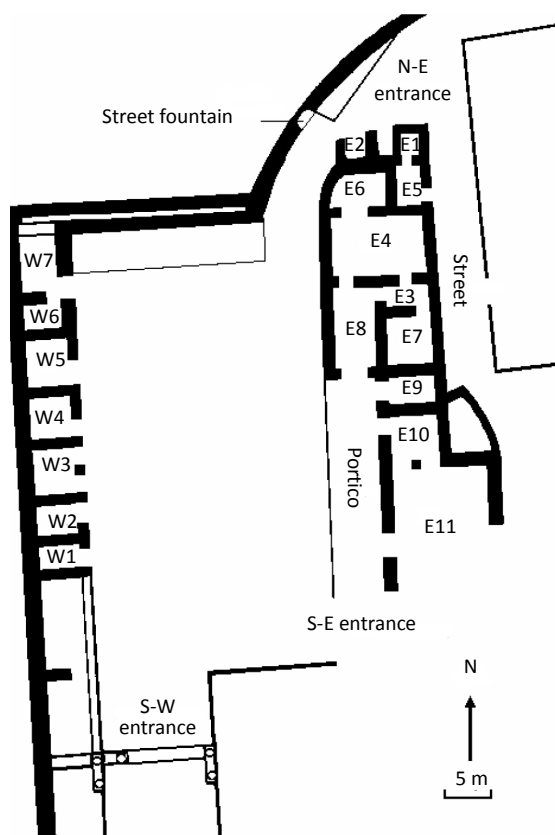


Fig. 8 – Map of the lower agora during the late Roman period
(PUTZEYS *et al.* 2008, fig. 3)

Moreover, the function of Room 4 as a storage and retail place is suggested by the presence of 5 dolia and amphorae sherds, a small amount of coins and metal finds such as a balance tray^[108]. The eastern portico of the Lower Agora witnessed a similar replanning phase during the 5th or early 6th century. In the northern part of the portico, a complex of five interrelated rooms probably functioned as both a *thermopolion* or restaurant and residence of its owner: while Room E3 was identified as a kitchen, based on the presence of a hearth and a dolium filled with kitchen and table refuse, Room E4 yielded a high proportion of vessels for storing, consumption and serving of foods and drinks, typical for a place to order and consume food. Room E8 can possibly be interpreted as some sort of take-away shop, since it was the only room in the complex that was directly accessible from the outside, and the archaeological material yielded metal objects pointing to commercial activities, such as balance trays. Rooms E6 and E7 were more

[108] Putzeys *et al.* 2008, p. 173–180.

private in character and possibly served as residence for the restaurant holder. Very interesting are the 25 coins found within the occupation levels of Room E7, dating mostly to the 4th and 5th century, and the presence of two trays and one beam of a balance, which made Toon Putzeys suggest that the space was used for the weighing and counting of coins ^[109]. Although caution is again needed when combining different find categories to draw such specific conclusions, it is highly possible that such activities took place within commercial-residential structures.

Commercial structures at late Roman Sagalassos were however not limited to the two main squares. The main Colonnaded Street, running north-south from the Lower Agora to the promontory of the Temple of Antoninus Pius, was equally aligned by rows of shops, which were repaired at some point during late Antiquity ^[110]. The street yielded another *topos* inscription that reads “*the place reserved for [Ju]lian*”. Two other inscriptions allocating a certain place to a particular person were found on the walls of the Doric temple, close to the late Roman city wall and the northwest city gate. Possibly, these can be linked to commercial activities which took place along this important, and perhaps busy, gateway to the center ^[111]. Moreover, a terrace building along the street leading to this same gate, was divided into units in the late 4th or early 5th century AD. Although the material recovered from these rooms only points to their use as shops or workshops in their final 6th and 7th phase of occupation, it is plausible that these already fulfilled a similar commercial function during late Roman times ^[112]. Finally, as mentioned earlier, the shops at the *Macellum* or food-market at Sagalassos saw an overall renovation phase during the 5th century, and continued to operate until the 2nd half of the 6th century AD ^[113]. Important evidence of the possible products sold at these shops was found during the 2013 campaigns. Room 15 yielded a number of sherds belonging to a large dish, probably dating to the 6th century. The graffiti incised to these sherds forms a list of food products and can be interpreted as an order or a bill for a three-day feast. Presumably, the wine, olive oil, meat and probably fish mentioned on the list, were sold at this or one of the other shops at the *Macellum* ^[114].

Regarding the countryside of Sagalassos, no evidence of commercial facilities exists. However, we can be quite sure that temporary markets will have taken place in the countryside, especially at places located further away from

[109] Putzeys *et al.* 2008, p. 190–194.

[110] Lavan 2008, p. 203.

[111] *Ibid.*, p. 206–207.

[112] Lavan 2008, p. 203 & 2012B, p. 375.

[113] Richard & Waelkens 2012.

[114] Richard *et al.* 2013, p. 46–47; publication by Richard, Clarysse & Poblome forthcoming.

the city center. The numerous villages and the presence of the Via Sebaste as major artery probably provided a suitable framework for such activities.

Taking all of the evidence together, both from Sagalassos itself as well as from broader historical and archaeological contexts, it is possible to reconstruct a hypothetical framework of exchange and coin use at late Roman Sagalassos and its countryside. As mentioned, exchange will have taken place in all possible directions in the city and its countryside and was possibly intensified due to the more specialized productive landscape. Moreover, in some respects, the connectivity between the town and its countryside seems to have strengthened during late Roman times. These exchanges could have taken place both in the city and in the countryside. Regarding the urban center, which can be seen as the primary redistribution center, many permanent and semi-permanent structures were available for the selling of goods at the *agorai*, *macellum* and streets. While the shops were visited to purchase certain artefacts or services, the food market and market stalls provided the necessary food products. Possibly, a great deal of these stalls were occupied by farmers selling their individual surplus to the urban dwellers on a regular basis. Besides this short-cycle markets, it is highly possible that larger, long-cycle markets were held at the city. According to Peter Talloen, Christian festivals, possibly dedicated to St. Michael or other saints, will have replaced pagan ones during the late Roman period. Most likely, gladiator games also continued during the 4th century AD ^[115]. Such occasions provided ideal contexts for the organization of large markets, possibly attracting both customers, traders and sellers from further away ^[116].

Although no direct evidence exists, markets were probably also held in the countryside, where farmers possibly exchanged their products among each other. Moreover, these markets were probably – and maybe primarily – places where goods and more specialized food products, for instance clothing, shoes and meat, were sold amongst urban or rural settlers or itinerant tradesman. According to Hannelore Vanhaverbeke, such markets could have taken place at so-called secondary centers, located at some distance from the town, and were visited by rural dwellers who could not reach the urban markets in a reasonable amount of time ^[117]. Such secondary centers could for instance have been located in the more remote basin of Bereket. Notwithstanding the possible connection and exchange between Bereket, now focusing on pastoralism, and Sagalassos, now turning for its meat supply to more distant parts of the territory, the ceramological evidence shows that the valley equally strengthened its ties with other locations. The increasing integration and connectivity of the countryside possibly

[115] Talloen 2015.

[116] *Ibid.*, p. 297–298.

[117] Vanhaverbeke & Waelkens 2003, p. 261–263.

reflect the growing importance of exchange, essential in a more specialized productive landscape where every patch of land is used.

A last question that remains is of course to what extent coins were used as a medium of exchange in those transactions. Although they are seldom found in their primary context, the abundance of late Roman coins in the center of Sagalassos, and more specifically in commercial contexts, suggests that these low-value bronzes were used for daily transactions at both shops and markets. Equally, the find of an *in-situ* money purse at a late Roman house shows how the 'common man' had coins at his disposal. Presuming that rural dwellers equally participated in market mechanisms and that integration between (and within) town and countryside was high, one can assume that farmers also received coin for their sold surpluses, which they could use to buy their own needs, to pay rents or to redeem taxes. However, due to some reasons, the level of coin use was probably lower in the countryside. First of all, the inhabitants could provide for their own food products to a certain extent. Secondly, it is possible the coins did not leave the location where markets or other commercial activities took place. One can imagine a farmer selling his surplus at a market at the nearby town or village, and immediately using the money he received to buy the required tools and services. Although used by both city and urban dwellers, the coins in this case mainly circulated within the borders of the town or primary redistribution center and the secondary central places. Thirdly, the selling of surplus by farmers could have been seasonal, depending on the time of harvest and slaughter. If farmers sold their products only once or a couple of times per year in large quantities – for instance to civic institutions – it may be that they were not paid in small change, but rather in high value coins which they hoarded awaiting later purchases. Finally, it is highly possible that besides payments in coin, also barter transactions took place ^[118]. Of course, inhabitants of the same or nearby village could have exchanged food products among each other and by doing so bring some variation in their diet without coins being used. Another alternative to coin use, both at town and countryside, is the use of credit. If such a system existed in the late Roman Pisidian town and countryside, things maybe were not so different as reported by Mahmout Makal in his '*Un village anatolien*', describing the daily life in the Anatolian countryside in the 1940's and 1950's, where buying things on credit – and the accompanying high interests – was the rule rather than the exception at the local grocery store, due to a chronic shortage of small change ^[119]. However, the amount of 4th and 5th century coins found – and by extension circulating – at Sagalassos, make such shortage less probable.

[118] See De Ligt 1990, p. 38–39; Poblome in press (a), p. 127.

[119] Makal 1963, p. 69–71.

CONCLUSION

The aim of this paper was to evaluate coin use and market mechanisms in Sagalassos and its countryside during late Roman times, relying both on coin finds and on broader, archaeological and historical evidence. As is generally the case in eastern Mediterranean sites, Sagalassos yielded a bulk of small coins dating to the 4th and 5th century. How and under what circumstances were these coins used by the inhabitants of both city and countryside? Sagalassos witnessed a period of prosperity during late Roman times, characterized by a vibrant town and countryside. Agricultural activities were both intensified and specialized, and the integration between the city and its territory reached its peak, as clearly shown by the developments at the Bereket valley. However, the presence of tableware and amphorae in the same basin coming from other, uncertain production sites, shows that the rural population now also relied on other places for the provisioning of goods. While urban dwellers needed to rely on the countryside to provide for their daily food needs, the farmers needed to supplement their diet and to buy some necessary, mainly city-produced, tools and services. Therefore, exchange on a systematic basis will have been indispensable, and commercial structures were needed. Permanent (work)shops occupied both *agorai* and streets at the city-center, offering tools and services, and food products were sold at markets held both in town and in the countryside. This image corresponds to the broader archaeological and historical evidence of daily coin use in the Eastern Mediterranean, with excavations revealing late Roman commercial structures dotted around town, and literary and epigraphic evidence sketching a landscape of vibrant daily exchange. Both urban and rural inhabitants used coins as a medium for their expenses – probably next to barter and credit transactions – which can explain the abundant coin finds at Sagalassos. The fact that virtually no coin finds are recorded in the city's territory is probably rather due to the lack of excavations than that it can be interpreted as symptomatic for the rural level of coin use. However, the level of monetization will have been lower in the countryside, due to a certain level of self-sufficiency, the fact that farmers directly spent their coins again in commercial center places and the possible seasonal bulk sale of their surplus.

To conclude, it should be added that many of these processes are not confined to late Roman times. Specialization and exchange for sure also existed in previous centuries, and bronze coinage will have played a comparable role. Moreover, the enormous amount of 4th and 5th century coins found at Sagalassos cannot be directly linked to the changing conditions in the city and its countryside, but rather reflects evolutions in the output and distribution of the bronze coins by the Roman authorities. Nonetheless, the specific late Roman conditions provided an excellent context to use and spend this bulk of small coins on a daily basis, both in the town of Sagalassos and in its countryside.

BIBLIOGRAPHY

- Atlan 1976 = S. ATLAN, *1947-1967 yılları Side kazıları sırasında elde edilen sikkeler*, Ankara.
- Bagnall 1977 = R.S. BAGNALL (ed.), *The Kellis Agricultural Account Book: P. Kell IV Gr. 96*, Dakhleh Oasis Project 7, Oxford.
- Bakker *et al.* 2011 = J. BAKKER, E. PAULISSEN, D. KANIEWSKI, V. DE LAET, G. VERSTRAETEN & M. WAELEKENS, Man, vegetation and climate during the Holocene in the territory of Sagalassos, Western Taurus Mountains, SW Turkey, *Vegetation History & Archaeobotany* 21, p. 249-266.
- Bakker *et al.* submitted = J. BAKKER, E. KAPTIJN & J. POBLOME, Sagalassos and its environs during late Roman and Byzantine times, in A. IZDEBSKI (ed.), *Brill's companion to the environmental history of Byzantium*, Leiden.
- Burnett 1987 = A. BURNETT, *Coinage in the Roman world*, London.
- Butcher 2001-2002 = K. BUTCHER, Small change in ancient Beirut. The coin finds from BEY 006 and BEY 045: Persian, Hellenistic, Roman and Byzantine periods, Archaeology of the Beirut Souks I, *Berytus* 45-46, Beirut.
- Butcher 2004 = K. BUTCHER, *Coinage in Roman Syria*, The Royal Numismatic Society special publication 34, London.
- Carrié 2012 = J.M. CARRIÉ, Were late Roman and Byzantine economies market economies?, in C. MORRISON (ed.), *Trade and Markets in Byzantium*, Dumbarton Oaks, p. 13-26.
- Crawford 1970 = M. CRAWFORD, Money and exchange in the Roman world, *Journal of Roman Studies* 60, p. 40-48.
- Crawford 1990 = J.S. CRAWFORD, *The Byzantine Shops at Sardis*, Archaeological exploration of Sardis 9, Harvard.
- De Cupere 2001 = B. DE CUPERE, *Animals at ancient Sagalassos. Evidence of the faunal remains*, Studies in Eastern Mediterranean Archaeology 4, Turnhout.
- Degryse *et al.* 2004 = P. DEGRYSE, P. MUCHEZ, B. DE CUPERE, W. VAN NEER & M. WAELEKENS, Statistical treatment of trace element data and ancient animal bone. Evaluation of Roman Byzantine environmental pollution, *Analytical Letters* 37, p. 2819-2834.
- De Ligt 1990 = L. DE LIGHT, Demand, supply, distribution. The Roman peasantry between town and countryside. Rural monetization and peasant demand, *Münstersche Beiträge zur antiken Handelsgeschichte* 9.2, p. 24-56.
- De Ligt 1991 = L. DE LIGHT, The Roman peasantry. Demand, supply, distribution between town and countryside 2. Supply, distribution, and a comparative perspective, *Münstersche Beiträge zur antiken Handelsgeschichte* 10.1, p. 33-77.
- De Ligt 1993 = L. DE LIGHT, *Fairs and Markets in the Roman Empire. Economic and Social Aspects of Periodic Trade in a Pre-Industrial Society*, Amsterdam.
- De Ligt & De Neeve 1988 = L. DE LIGHT & P.W. DE NEEVE, Ancient periodic markets. Festivals and fairs, *Athenaeum* 66.2, p. 391-417.
- Erol 2005 = A. EROL, *Perge Kazı Sikkeleri: 1989-1998*, unpublished master's thesis, Istanbul: İstanbul Üniversitesi.
- Guest 2012 = P. GUEST, The production, supply and use of late Roman and early Byzantine copper coinage in the Eastern Empire, *Numismatic Chronicle* 172, p. 105-131.
- Haatvedt & Peterson 1964 = R.A. HAATVEDT & E.E. PETERSON, *Coins from Karanis: The University of Michigan Excavations 1924-1935*, Ann Arbor.
- Harris 2004 = A. HARRIS, Shops, retailing and the local economy in the Early Byzantine world. The example of Sardis, in K. DARK (ed.), *Secular buildings and the archaeology of everyday life in the Byzantine Empire*, Oxford, p. 82-122.

- Hollander 2007 = D.B. HOLLANDER, *Money in the late Roman Republic*, Columbia studies in the classical tradition 29, Leiden.
- Hopkins 1978 = K. HOPKINS, Economic growth and towns in classical antiquity, in P. ABRAMS & E.A. WRIGLEY (eds.), *Towns in societies. Essays in economic history and historical sociology*, Cambridge, p. 35-77.
- Hopkins 1995-1996 = K. HOPKINS, Rome, Taxes, Rents, and Trade, *Kodai* 6/7, p. 41-75.
- Howgego 1992 = C. HOWGEGO, The Supply and Use of Money in the Roman World 200 BC to AD 300, *The Journal of Roman Studies* 82, p. 1-31.
- Izdebski 2013 = A. IZDEBSKI, The Economic Expansion of the Anatolian Countryside in Late Antiquity. The Coast versus Inland Regions, in L. LAVAN (ed.), *Local Economies? Production and Exchange of Inland Regions in Late Antiquity*, Late Antique Archaeology 10, Leiden, p. 343-376.
- Jacobs 2009 = I. JACOBS, Encroachment in the Eastern Mediterranean between the fourth and the seventh century AD, *Ancient Society* 39, p. 203-243.
- Jacobs *et al.* in press = I. JACOBS, K. DEMARSIN & M. WAELEKENS, From temple to church to graveyard, in M. WAELEKENS & P. BES (eds.), *Holistic Archaeology – The Transition from Late Roman to Early Medieval Times in the Roman West and East*, Leiden.
- Kaniewski *et al.* 2007 = D. KANIEWSKI, E. PAULISSEN, V. DE LAET, K. DOSSCHE & M. WAELEKENS, A high-resolution Late Holocene landscape ecological history inferred from an intramontane basin in the western Taurus mountains, Turkey, *Quaternary Science Reviews* 26.17-18, p. 2201-2218.
- Kaniewski *et al.* 2008 = D. KANIEWSKI, E. PAULISSEN, V. DE LAET & M. WAELEKENS, Late Holocene fire impact and post-fire regeneration from the Bereket basin, Taurus mountains, Turkey, *Quaternary Research* 70.2, p. 228-239.
- Kaptijn *et al.* 2013 = E. KAPTIJN, J. POBLOME, H. VANHAVERBEKE, J. BAKKER & M. WAELEKENS, Societal changes in the Hellenistic, Roman and early Byzantine periods. Results from the Sagalassos Territorial Archaeological Survey 2008 (southwest Turkey), *Anatolian Studies* 63, p. 75-95.
- Katsari 2008 = C. KATSARI, The monetization of Rome's frontier provinces, in W.V. HARRIS (ed.), *The Monetary Systems of the Greeks and Romans*, Oxford, p. 242-266.
- Katsari *et al.* 2012 = C. KATSARI, C. LIGHTHOOT & A. ÖZME, *The Armorium Mint and the Coin Finds*, Berlin.
- Köker 2007 = H. KÖKER, *Perge Kazı Sikkeleri: 1999-2004*, unpublished master's thesis, Istanbul: İstanbul Üniversitesi.
- Kondoleon 2000 = C. KONDOLEON (ed.), *Antioch. The lost ancient city*, Princeton.
- Lavan 2006 = L. LAVAN 2006, Fora and agorai in Mediterranean cities during the 4th and 5th century AD, in W. BOWDEN, A. GUTTERIDGE & C. MACHADO (eds.), *Social and political life in late Antiquity*, Late Antique Archaeology 3.1, Leiden & Boston, p. 196-249.
- Lavan 2007 = L. LAVAN, The agorai of Antioch and Constantinople as seen by John Chrysostom, in J. DRINKWATER & B. SALWAY (eds.), *Wolf Liebeschuetz Reflected. Essays presented by colleagues, friends, & pupils*, BICS Supplement 91, London, p. 157-167.
- Lavan 2008 = L. LAVAN, The Monumental Streets of Sagalassos in Late Antiquity. An interpretative study, in P. BALLET, N. DIEUDONNÉ-GLAD & C. SALIOU (eds.), *La rue dans l'Antiquité. Définition, aménagement, devenir. Actes du colloque à Poitiers, 7-9 septembre 2006*, Rennes, p. 201-214.
- Lavan 2012A = L. LAVAN, The Agorai of Sagalassos in Late Antiquity. An Interpretive Study, in L. LAVAN & M. MULRYAN (eds.), *Field Methods and Post-Excavation Techniques in Late Antique Archaeology*, Late Antique Archaeology 9, p. 289-353.

- Lavan 2012B = L. LAVAN, From polis to emporion? Retail and regulation in the late antique city, in C. MORRISON (ed.), *Trade and Markets in Byzantium*, Dumbarton Oaks, p. 333-377.
- Lauwers 2008 = V. LAUWERS, *The glass of Sagalassos. Towards a geochemical and typochronological interpretation*, unpublished PhD thesis, Leuven: KU Leuven.
- Lenger 2011 = D.S. Lenger, Arpalık Tepe Mağarası Kutsal Alanı'ndan Sikkeler, *Mediterranean Journal of Humanities* 1, p. 145-149.
- Levi 1947 = D. LEVI, *Antioch Mosaic Pavements. Volume 1*, Princeton.
- Makal 1963 = M. MAKAL, *Un village anatolien*, Terre Humaine Poche 3011, California.
- Mitchell 1993 = S. MITCHELL, *Anatolia. Land, Men and Gods in Asia Minor. Volume 11: The rise of the church*, Oxford.
- Murphy & Poblome 2012 = E. MURPHY & J. POBLOME, Technical and social considerations of tools from Roman-period ceramic workshops at Sagalassos (Southwest Turkey). Not just tools of the trade?, *Journal of Mediterranean Archaeology* 25/2, p. 69-89.
- Norman 2000 = A.F. NORMAN, *Antioch as a centre of Hellenic culture*, Translated texts for Historians 34, Liverpool.
- Pitarakis 2012 = B. PITARAKIS, Daily life at the marketplace in late Antiquity and Byzantium, in C. MORRISON (ed.), *Trade and Markets in Byzantium*, Dumbarton Oaks, p. 399-426.
- Poblome 2015 = J. POBLOME, Life in the late antique countryside of Sagalassos, in H. METIN, A. POLAT-BECKS, R. BECKS, M. FIRAT & B. HÜRMÜZLÜ-KORTHOLD (eds.), *Pisidia Yazıları. Türk Müzeciliğin Gülen Yüzü Hacı Ali Ekinci Armağanı / Pisidian Essays in Honour of Hacı Ali Ekinci*, Ege Yayınları, p. 99-109.
- Poblome in press (a) = J. POBLOME, The economy of the Roman world as a complex adaptive system. Testing the case in second to fifth century CE Sagalassos, in P. ERDKAMP & K. VERBOVEN (eds.), *Structure and Performance in the Roman Economy. Models, Methods and Case Studies*, p. 85-130.
- Poblome in press (b) = J. POBLOME, The economy of the later Roman empire, in L.V. RUTGERS (ed.), *Cambridge Encyclopedia of Late Antique Archaeology*, Cambridge.
- Poblome et al. 2008 = J. POBLOME, M. CORREMANS, P. BES, K. ROMANUS & P. DEGRYSE, It is never too late. The late Roman initiation of amphora production in the territory of Sagalassos, in I. DELEMEN, S. ÇOKAY-KEPÇE, A.T. ÖZDİZBAY & O. TURAK (eds.), *Euergetes. Festschrift für Prof. Dr. Haluk Abbasoğlu* 65. *Geburtstag*, Antalya, p. 1001-1012.
- Poblome & Firat 2011 = J. POBLOME & N. FIRAT, Late Roman D. A matter of open(ing) or closed horizons, in M.A. CAU, P. REYNOLDS & M. BONIFAY (eds.), *LRFW 1. Late Roman fine Wares. Solving problems of typology and chronology. A review of the evidence, debate and new contexts*, Roman and late Antique Mediterranean pottery 1, Oxford, p. 49-55.
- Poblome et al. 2013 = J. POBLOME, R. WILLET, N. FIRAT, F. MARTENS & P. BES, Tinkering with urban survey data. How many Sagalassos-es do we have?, in P. JOHNSON & M. MILLET (eds.), *Archaeological Survey and the City*, Oxford, p. 146-174.
- Poblome et al. in press (a) = J. POBLOME, P. TALLOEN & E. KAPTIJN, Byzantine Sagalassos, in P. NIEWÖHNER (ed.), *The Archaeology of Byzantine Anatolia. From Late Antiquity to the Coming of the Turks*, Leiden.
- Poblome et al. in press (b) = J. POBLOME, H. ULENERS, I. UYTTERHOEVEN, E. MARINOVA & B. DE CUPERE, The 2012 to 2014 excavation campaigns at Site LE, Sagalassos. The structural remains and general phasing, *Anatolica* 41.
- Potter 1995 = T.W. POTTER, *Towns in late Antiquity. Iol Caesarea and its context*, Ian Sanders memorial fund. Occasional publications 2, Sheffield.

- Putzeys 2007 = T. PUTZEYS, *Contextual Analysis at Sagalassos: Developing a Methodology for Classical Archaeology*, unpublished PhD thesis, Leuven: KU Leuven.
- Putzeys & Lavan 2008 = T. PUTZEYS & L. LAVAN, Commercial Space in Late Antiquity, in L. LAVAN, E.V. SWIFT & T. PUTZEYS (eds.), *Objects in Context, Objects in Use: Material Spatiality in Late Antiquity*, Late Antique Archaeology 5, Leiden, p. 81-109.
- Putzeys et al. 2008 = T. PUTZEYS, M. WAELEKENS, J. POBLOME, W. VAN NEER, B. DE CUPERE, T. VAN THUYNE, N. KELLENS & P. BES, Shops and retail in Late Antiquity. A contextual approach to the material evidence from Sagalassos, in H. VANHAVERBEKE, J. POBLOME, F. VERMEULEN, M. WAELEKENS & R. BRULET (eds.), *Thinking about Space. The Potential of Surface Survey and Contextual Analysis in the Definition of Space in Roman times*, Studies in Eastern Mediterranean Archaeology 8, Turnhout, p. 161-217.
- Richard et al. 2010 = J. RICHARD, M. WAELEKENS & J. POBLOME, Het *Macellum* (MAC). Van verstopte leidingen tot muntschatten, in M. WAELEKENS (ed.), *Sagalassos. Jaarboek 2009. De Late Oudheid (ca. 200-450/455 n. Chr.). Het jaarverslag van de campagne van 2009*, Leuven, p. 258-273.
- Richard & Waelkens 2012 = J. RICHARD & M. WAELEKENS, Le *macellum* de Sagalassos. Un marché « romain » dans les montagnes du Taurus ? Compte-rendu préliminaire des fouilles archéologiques menées depuis 2005, in V. CHANKOWSKI & P. KARVONIS (eds.), *Tout vendre, tout acheter. Structures et équipements des marchés antiques*, Scripta Antiqua 42, Bordeaux & Athens, p. 83-104.
- Richard et al. 2013 = J. RICHARD, M. WAELEKENS, B. DE CUPERE & E. MARINOVA, Het *macellum*. Vlees op bestelling, in M. WAELEKENS (ed.), *Sagalassos. Jaarboek 2013*, Leuven, p. 38-51.
- Romanus et al. 2009 = K. ROMANUS, J. BAETEN, J. POBLOME, S. ACCARDO, P. DEGRYSE, P. JACOBS, D. DE VOS & M. WAELEKENS 2009, Wine and olive oil permeation in pitched and non-pitched ceramics. Relation with results from archaeological amphorae from Sagalassos, Turkey, *Journal of Archaeological Science* 36/3, p. 900-909.
- Rouché 1989 = C. ROUCHÉ, *Aphrodisias in late Antiquity*, London.
- Scheers 1993A = S. SCHEERS, Catalogue of the coins found during the years 1990 and 1991, in M. WAELEKENS (ed.), *Sagalassos I. First General Report on the Survey (1986-1989) and Excavations (1990-1991)*, Acta Archaeologica Lovaniensia Monographiae 5, Leuven, p. 197-205.
- Scheers 1993B = S. SCHEERS, Catalogue of the coins found in 1992, in M. WAELEKENS & J. POBLOME (eds.), *Sagalassos II. Report on the Third Excavation Campaign of 1992*, Acta Archaeologica Lovaniensia Monographiae 6, Leuven, p. 249-260.
- Scheers 1995 = S. SCHEERS, Catalogue of the coins found in 1993, in M. WAELEKENS & J. POBLOME (eds.), *Sagalassos III. Report on the Fourth Excavation Campaign of 1993*, Acta Archaeologica Lovaniensia Monographiae 7, Leuven, p. 307-323.
- Scheers 1997 = S. SCHEERS, Coins found in 1994 and 1995, in M. WAELEKENS & J. POBLOME (eds.), *Sagalassos IV. Report on the Survey and Excavation Campaigns of 1994 and 1995*, Acta Archaeologica Lovaniensia Monographiae 9, Leuven, p. 315-352.
- Scheers 2000 = S. SCHEERS, Coins found in 1996 and 1997, in M. WAELEKENS & L. LOOTS (eds.), *Sagalassos V. Report on the Survey and Excavation Campaigns of 1996 and 1997*, Acta Archaeologica Lovaniensia Monographiae 11, Leuven, p. 509-552.
- Scheers in press = S. SCHEERS, The coins found in 1998-2004, in M. WAELEKENS, P. BES, I. JACOBS & J. POBLOME (eds.), *Sagalassos VII. The Upper and Lower Agora. The Porticoes, the Bouleuterion, the Basilica of St. Michael and the Northeast Building*, Leuven.
- Şen 2004 = N.T. ŞEN, *Perge Akropolisi Kazı Sikkeleri: 1994-2003*, unpublished master's thesis, Istanbul: İstanbul Üniversitesi.

- Talloon 2015 = P. TALLOEN, *Cult in Pisidia. Religious Practice in Southwestern Asia Minor from Alexander the Great to the Rise of Christianity*, Studies in Eastern Mediterranean Archaeology 10, Turnhout.
- Talloon forthcoming = P. TALLOEN, *the Christianisation of Pisidia*.
- Tekin 1987 = O. TEKIN, *Perge Kazılarında Bulunan Sikkeler 1956-1983*, unpublished master's thesis, Istanbul: İstanbul Üniversitesi.
- Travaglini & Giulia 2010 = A. TRAVAGLINI & C.V. GIULIA, *Hierapolis di Frigia. Le Monete. Campagne di Scavo 1957-2004*, Hierapolis di Frigia V, Istanbul.
- Uleners & Poblome 2014 = H. ULENERS & J. POBLOME, A new and unexpected potter's workshop at Sagalassos, *ANMED* 12, p. 87-93.
- Vandeput & Köse 2009 = L. VANDEPUT & V. KÖSE, Pisidia Survey Project 2007. Remains in the territory of Pednelissos, *xxvi. Araştırma Sonuçları Toplantısı* 3, p. 45-58.
- Vanhaverbeke & Waelkens 2003 = H. VANHAVERBEKE & M. WAELENS, *The Chora of Sagalassos. The evolution of the settlement pattern from Prehistoric until recent times*, Studies in eastern Mediterranean archaeology 5, Turnhout.
- Vanhaverbeke et al. 2004 = H. VANHAVERBEKE, F. MARTENS, M. WAELENS & J. POBLOME, Late Antiquity in the territory of Sagalassos, in W. BOWDEN, L. LAVAN & C. MACHADO (eds.), *Recent research on the late antique countryside*, Late Antique Archaeology 2, Leiden, p. 247-279.
- Vanhaverbeke et al. 2007 = H. VANHAVERBEKE, F. MARTENS & M. WAELENS, Another view on late Antiquity. Sagalassos (SW Anatolia), its suburbium and its countryside in late Antiquity, in A. POULTER (ed.), *The transition to late Antiquity on the Danube and beyond*, Oxford, p. 611-648.
- Vanhaverbeke et al. 2011 = H. VANHAVERBEKE, P. DEGRYSE, B. DE CUPERE, W. VAN NEER, M. WAELENS & P. MUNCHEZ, Urban-Rural Integration at Ancient Sagalassos (SW Turkey). Archaeological, Archaeozoological and geochemical evidence, *Archaeofauna* 20, p. 73-83.
- Waelkens 2000 = M. WAELENS, The 1998-99 excavation and restoration season at Sagalassos, *Kazı Sonuçları toplantısı* 22/2, p. 159-180.
- Waelkens et al. 2000 = M. WAELENS, H.K. ERSOY, K. SEVERSON, F. MARTENS & S. SENER, The Sagalassos Neon library and its conservation, in M. WAELENS & L. LOOTS (eds.), *Sagalassos v. Report of the survey and excavation campaigns of 1996 and 1997*, Acta Archaeologica Lovaniensia Monographiae 11/A, Leuven, p. 419-447.
- Waelkens et al. 2006 = M. WAELENS, H. VANHAVERBEKE, F. MARTENS, P. TALLOEN, J. POBLOME, N. KELLEN, T. PUTZEYS, P. DEGRYSE, T. VAN THUYNE & W. VAN NEER, The late Antique to early Byzantine city in Southwest Anatolia. Sagalassos and its territory. A case study, in J.U. KRAUSE & C. WITSCHERL (eds.), *Die Stadt in der Spätantike. Niedergang oder Wandel?*, Historia Einzelschriften 190, Stuttgart, p. 199-255.
- Waelkens et al. 2010 = M. WAELENS et al., Sagalassos 2008 ve 2009 Kazı ve Restorasyon Sezonları, *Kazı Sonuçları toplantısı* 32/3, p. 263-281.
- Waelkens & Jacobs 2014 = M. WAELENS & I. JACOBS, Sagalassos in the Theodosian age, in I. JACOBS (ed.), *Production and Prosperity in the Theodosian Period*, Interdisciplinary Studies in Ancient Culture and Religion 14, Leuven, p. 91-126.
- Willet & Poblome in press = R. WILLET & J. POBLOME, The scale of Sagalassos Red Slip Ware production. Reconstructions of local need and production output of Roman imperial tableware, *Adalya* 18.
- Zanini 2006 = E. ZANINI, Artisans and traders in the early Byzantine city. Exploring the limits of archaeological evidence, in W. BOWDEN, A. GUTTERIDGE & C. MACHADO (eds.), *Social and Political Life in Late Antiquity*, Late Antique Archaeology 3.1, Leiden, p. 373-411.